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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,588	10/18/2003	**Robert Kincaid**	10031032-1	2257

22878 7590 10/29/2009

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EXAMINER	
SIMS, JASON M	

ART UNIT	PAPER NUMBER
1631	

NOTIFICATION DATE	DELIVERY MODE
10/29/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPOPS.LEGAL@agilent.com

Office Action Summary	Application No.	Applicant(s)	
	10/688,588	KINCAID, ROBERT	
	Examiner	Art Unit	
	JASON M. SIMS	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22,40-50 and 56-60* is/are pending in the application.

4a) Of the above claim(s) *15,16,21 and 48* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,17-20,22,40-47,49,50 and 56-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/4/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's arguments, filed 6/23/2009, have been fully considered. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Applicants have amended their claims, filed 6/23/2009, and therefore rejections newly made in the instant office action have been necessitated by amendment.

Claims 15, 16, 21, and 48 have been withdrawn as being drawn to non-elected subject matter.

Claims 1-14, 17-20, 22, 40-47, 49-50, and 56-60 are the current claims hereby

Claim Rejections - 35 USC § 101

Response to Arguments

Applicant's arguments, filed 6/23/2009, with respect to the rejection of claims under 35 USC 101 have been fully considered and are persuasive because of applicant's amendments and arguments. Therefore the rejection has been withdrawn.

The following rejection is being newly added:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 56-60 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are drawn to a computer program on computer readable media. A review of the specification does not show a definition of computer readable media such that excludes an embodiment that is information in a signal. As such an embodiment of the claims read on non-statutory subject matter (In re Nuijten 84 USPQ2d 1495 (2007)). The applicants may overcome the rejection by amendment of the claims to be limited to physical forms of computer readable media described in the specification.

Claim Rejections - 35 USC § 102

Response to Arguments

Applicant's arguments, filed 6/23/2009, with respect to the rejection of claims under 35 USC 102 have been fully considered and are persuasive because of applicant's amendments and arguments. Therefore the rejection has been withdrawn.

The following rejection has been modified, which was necessitated by amendment:

Claim Rejections - 35 USC § 103-Modified

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 40-43, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warrington et al. (P/N 6,884,578; no. 2 reference in IDS submitted 11/6/2008) in view of Balaban et al. (6,185,561; no. 3 reference submitted in IDS 11/6/2008) as evidenced by Byrd et al. (US P/N 5,826,260; no. 4 reference submitted in IDS 11/6/2008).

The claims are directed to a method for displaying and manipulating data to facilitate identification, trends, correlation, or other useful relationships among the data comprising steps of providing data arranged in a matrix, converting the data to graphical representations, displaying the graphical representations, sorting the data based on comparison values, reordering the data, and displaying the rearranged data in the matrix.

With regards to claim 1: Warrington et al. teach limitations of claim 1 at col. 12, lines 41-67, col. 13, lines 1-38 and col. 25, lines 25-44. Warrington et al. discusses at col. 12 and 13, inputting data items associated with entities to be observed, where the data is arranged in an n x m matrix, as it is stored in tables forming a database or comprising a relational database, which reads on data items being arranged in an n x m

matrix of rows and columns. Warrington et al. further teach at cols. 12 and 13 the different types of data items being stored wherein the items represent the same characteristics, but may vary in value and the data is converted to graphical representations as they are displayed in readable database form, such as Genbank. Warrington et al. further teach at col. 14, lines 32-48, an embodiment of the invention wherein the data values comprise expression values, but are converted to a quantitative read-out and stored in the database, which reads on converting data values of the identified data items to graphical representations of the data values to be displayed. Warrington et al. further describe at col. 14, lines 32-48, lines 61-67, and col. 15, lines 30-47 that this data can be analyzed to identify patterns and variation, which reads on graphically representing the data values such that comparisons of the graphical representations among one another allow variations amongst the data values to be identified. Warrington et al. at col. 13, lines 54-58 describe an illustrated example of a computer system that may be used to execute the software of an embodiment of the invention, wherein the system comprises a display. Therefore, it is inherent that Warrington et al. teach a display used for displaying the tables of data and results of the analysis and data manipulation steps, etc.

Warrington et al. suggests, but does not explicitly teach displaying a smaller c x d matrix of data than the n x m matrix of data.

Warrington et al. suggest this because at the referenced columns 12 and 13, they teach designing a relational database made of different tables of varying data. It is an inherent property of relational database design to be able to design tables, i.e.

matrices of data, to be of varying size. Warrington et al. describes a relational database of at least three different tables and at col. 16, lines 13-34 describe the different types of data that may fill the tables in the database. Furthermore, Warrington et al. at col.s 20-27, examples 1 and 2, disclose tables of varying sizes. In addition, Warrington et al. at col. 19, lines 7-20 disclose that their invention is presented in a range format, which should be understood that this encompasses all variations of the ranges and subranges, i.e. tables of particular size and smaller tables from those tables. Moreover, Warrington et al. do reference Balaban et al. col. 13, lines 35-36, which has been incorporated by reference and Balaban et al. teaches at Fig. 2A a display screen to display mined expression data, i.e. manipulated data.

Balaban et al. at col. 2, lines 23-67 teach basic methods and capabilities of the data mining invention wherein the data mining involves different visualization techniques and different formatting of resulting information to better provide a user with easier visualization and better interpretational abilities. The invention of Balaban et al. is to be able to mine data to provide a user with more helpful and better organized data and visualized data, which suggests displaying different size tables of information including a smaller matrix of data such as a c x d matrix that is smaller than an n x m table.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to have displayed a smaller c x d matrix of data, as suggested by Warrington et al and taught by Balaban et al. This is because designing tables of varying size that comprise a relational database are an inherent property of relational database design, as set forth above. Furthermore, the varying sizes and

ranges of data and tables was envisioned and disclosed by Warrington et al. as being encompassed by the taught invention. It would have further been obvious to one of ordinary skill in the art to want to be able to mine data and have different visualization techniques as taught by Balaban et al. This is because displaying subsets of data, i.e. as such in a smaller matrix can be more effective and more easily facilitate the interpretation of experimental data.

Warrington et al. suggest, but do not explicitly teach selecting a row or column, i.e. calculating a pseudo-data vector, sorting and thus reordering the order of arrangement of the rows of data in the n x m matrix based on a comparison of the values of the identified data items in the row or column, i.e. the pseudo-vector.

Warrington et al. suggests this because Warrington et al. teach and describe a relational database, wherein it is a recognized property of relational database design that rows or columns can be sorted and reordered based on varying criteria or rules created by the designer.

Balaban et al. at col. 3, lines 5-11 teach a query that can be submitted to the relational database tables wherein it extracts information from a larger n x m matrix of data and can display or sort and thus reorder the data, such as those genes where the gene expression value is greater than or equal to 100. The query, in a sense, selects a set of data, wherein the selected matched data is equated with having a preset positive value, i.e. selected and the non-matched/selected data will have a null or negative value, thus calculating a pseudo-vector. The stored data is not necessarily in an order from least expression value for a gene to greatest expression value for a gene. Thus

the query itself mines the data of those genes whose expression value is greater than 100 and thus reorders the data to be better visualized by a user. Furthermore, Balaban et al. at col. 5, lines 54-56 describes an expression mining database where the user can query and mine the data, wherein the type of querying can vary depending on the user and questions that the user wants to be answered. It is therefore implied that the mining of data as taught by Balaban et al. incorporates the capability of sorting and reordering the expression data as it is a common goal of any data mining to be able to sort and reorder data. Moreover it is evidenced by Byrd, Jr et al. at the abstract and claims 12, 14, and 28 that data can be reordered based on query elements when being mined and it is common to those of ordinary skill in the art to implement reordering functionality when designing data mining tools.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to want to be able to mine data by sorting and reordering the data and have different visualization techniques as taught by Balaban et al. in the method of Warrington et al. because it can be more effective and is a goal of the researcher to be able to visualize and manipulate data in customizable ways in order to be able to more effectively interpret experimental data. Furthermore, the differences between the claimed invention and the prior art were encompassed in known variations or in a principal known in the prior art.

Warrington et al. do not explicitly teach displaying d rows and from the reordered n x m matrix for observation by a user

Again, Warrington et al. suggest this because at the referenced columns 12 and 13, they teach designing a relational database made of different tables, i.e. and rows, of varying data. It is an inherent property of relational database design to be able to design tables, i.e. matrices of data, to be of varying size. Warrington et al. describes a relational database of at least three different tables and at col. 16, lines 13-34 describe the different types of data that may fill the tables in the database. Furthermore, Warrington et al. at col.s 20-27, examples 1 and 2, disclose tables of varying sizes. In addition, Warrington et al. at col. 19, lines 7-20 disclose that the taught invention is presented in a range format, which should be understood that this encompasses all variations of the ranges and subranges, i.e. tables of particular size and smaller tables from those tables, i.e. rows.

Balaban et al. at col. 2, lines 23-67 teach basic methods and capabilities of the data mining invention wherein the data mining involves different visualization techniques and different formatting of resulting information to better provide a user with easier visualization and better interpretational abilities. The invention of Balaban et al. is to be able to mine data to provide a user with more helpful and better organized data and visualized data, which implies that its capable of displaying different information including a row from an n x m table, wherein the data is the reordered data.

Therefore, it would be obvious to one of ordinary skill in the art at the time of the instant invention to have displayed a row of data, that was reordered as suggested by Warrington et al. in the method of Balaban et al. This is because designing tables of varying size that comprise a relational database are an inherent property of relational

database design. Furthermore, the varying sizes and ranges of data and tables, i.e. and rows, was envisioned and disclosed by Warrington et al. as being encompassed by the taught invention. This is because displaying subsets of data, i.e. as such in a smaller matrix can be more effective and more easily facilitate the interpretation of experimental data.

With regards to the limitations of claims 40-42 of forwarding, transmitting, and receiving the resulting data obtained by the method of claim 1: Balaban et al. describe at Fig. 2B a computer network suitable for use in conjunction with the taught invention, which comprises a LAN and computer networks, which inherently have the capabilities of forwarding, transmitting, and receiving data. Balaban et al. further teach that the taught invention formats resulting data for viewing by a user, see claim 1. Thus Balaban et al. teach the method steps of forwarding, transmitting, and receiving resulting data as in claims 40-42.

Response to Arguments

Applicant's arguments filed 6/23/2009 have been fully considered but they are not persuasive.

Applicant argues that none of the references teach or suggest the amended claim wording of calculating a pseudo-vector having n values.

Applicant's arguments are not found persuasive because applicant's published application, which corresponds to the instant application, PG PUB 20040061702 at paragraphs [0012] - [0014] give very broad definitions and guidelines as to how a

pseudo-vector may be calculated or what values a pseudo-vector may comprise. For example, "a pseudo-data vector may be calculated by selecting a portion of a row (or column) of the data in the dataset, wherein the selected portion is emphasized by assigning a preset positive value to each cell value in the selected portion, and wherein a null or negative preset negative value is assigned to all cell values which have not been selected in the row or column." In addition, "A pseudo-vector may be calculated from arbitrary data input from a user." Thus, in the instant Office Action it is stated that Balaban et al. at col. 3, lines 5-11 teach a query that can be submitted to the relational database tables wherein it extracts information from a larger n x m matrix of data and can display or sort and thus reorder the data, such as those genes where the gene expression value is greater than or equal to 100. The query in a sense, selects a set of data, wherein the selected matched data is equated with having a preset positive value, i.e. selected and the non-matched/selected data will have a null or negative value, thus calculating a pseudo-vector. This reads on the broad definitions of applicant's published application paragraphs [0012] – [0014] wherein the pseudo-vector is calculated based on a query, i.e. arbitrary user input and will comprise positive or null or negative values. Furthermore, the pseudo-vector will have n values as the query will match or retrieve some data that will match the criteria, which reads on the amended claim step of the pseudo-vector having n values, where n is a range of values from 0 or more.

Claims 2-5, 8-13, 17-20, 22, 44-47, 49-50 and 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warrington et al. (P/N 6,884,578; no. 2 reference in IDS submitted 11/6/2008) in view of Balaban et al. (6,185,561; no. 3 reference submitted in IDS 11/6/2008) as evidenced by Byrd et al. (US P/N 5,826,260; no. 4 reference submitted in IDS 11/6/2008), as applied to claim 1 above and further in view of Balaban et al. (US A/N 2003/0028501).

Warrington, Balaban and Byrd teach claims 1, 40-43, and 56 as set forth above.

Warrington et al. and Balaban et al. and Byrd et al. do not explicitly teach the method of claim 2 of providing at least one row of annotative data in at least one cell, selecting a row, and converting the select row of annotative data items to a pseudo-data vector, by assigning data values to the annotative data items.

Balaban et al. ('501) teach at Figs. 4A and 9A-9F and paragraph [0045] an LIMS system comprising a database of annotative data. Balaban et al. ('501) further teach at paragraph [0071] that the annotations can be user defined, which reads on applicant's definition of a pseudo-vector at paragraphs [0012]-[0013] wherein a user input may be provided for, wherein a user or the system may input predetermined values to be substituted for the descriptive data values and a pseudo-vector may be calculated from arbitrary data input from a user. The annotation query, in a sense, selects a set of data, wherein the selected matched data is equated with having a preset positive value, i.e. selected and the non-matched/selected data will have a null or negative value, thus this step assigns data values to the annotative data items, which reads on converting the user input data into a pseudo-vector. Therefore, the taught step of "updataing," which

assigns data values to the annotative data items, reads on converting the selected row of annotative data items to a pseudo-data vector. Balaban et al. ('501) further teach at paragraph [0073] a query screen that provide the ability to update annotations along with other variations, modifications, and alternatives.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to have incorporated rows of annotative data as taught by Balaban et al. ('501) into the relational databases taught by Warrington et al. and Balaban et al. and Byrd et al. for storing data. This is because the differences between the claimed invention and the prior art were encompassed in known variations or in a principal known in the prior art. Furthermore, one of ordinary skill in the art would have recognized that applying the known technique of designing relational databases to store, manipulate, and visualize data in various ways would have yielded predictable results.

Warrington et al. and Balaban et al. and Byrd et al. and Balaban et al. ('501) do not explicitly teach wherein the annotative data comprises binary data as in claim 3.

Balaban et al. at paragraphs [0011] – [0014] ('501) teach a laboratory information management system which manages and tracks a plurality of information, such as information about experiments, the history of the steps of producing a sample, etc., wherein annotative data comprising binary data is an obvious variation for the listed types of data being managed, stored, manipulated, and annotated. This is because the specification describes that "Pseudo-data is based on user input, and may be further dependent upon binary data relating to the actual data," which is used for data to

populate the pseudo-vector. Byrd et al. exemplifies at col. 1, lines 63-65, that query data, which is based on user input, is based on a similarity measure, i.e. simple binary comparisons and whether the data element is there or not. Thus Byrd et al. teach that binary data may comprise part of the data based on routine querying, which is based on user input. As discussed above, Balaban et al. ('501) teach at paragraph [0071] that the annotations can be user defined, i.e. through queries, which reads on applicant's definition of a pseudo-vector at paragraphs [0012]-[0013] wherein a user input may be provided for, wherein a user or the system may input predetermined values to be substituted for the descriptive data values and a pseudo-vector may be calculated from arbitrary data input from a user.

One of ordinary skill in the art at the time of the instant invention would have immediately envisaged applying the known technique of information management as taught by Balaban et al. to managing annotative data comprising binary data and the results would have been predictable. Furthermore, the differences between the claimed invention and the prior art were encompassed in known variations or in a principal known in the prior art.

The combination of references suggest, but do not explicitly teach the limitations of claims 6-7 wherein color-coding particular cells is taught.

The references suggest this because they teach various forms of manipulating and displaying data. For instance, Balaban et al. ('501) teach at paragraphs [0066]-[0069] displays may be in various forms, such as bar graphs, histogram graphs wherein

a user can specify options such as range and color, etc. Therefore, using color as a way of displaying and manipulating data is recognized by Balaban et al. ('501).

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to have used color for displaying as taught by Balaban et al. ('501) for color-coded cells of at least one row of data. This is because using color as a way of displaying and manipulating data is recognized by Balaban et al. ('501). Therefore, the differences between the claimed invention and the prior art were encompassed in known variations or in a principal known in the prior art. Furthermore, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

With regards to claims 4-5, 8-13, 17-20, 22, 44-47, 49-50 and 57-60 each of said claims are all obvious variations of the same data manipulation methods as discussed with the teachings of claim 1. For example, claim 4 is a method of displaying a row of annotative data adjacent the display of the first c x d graphical representations. Claim 12 reads on similarity sorting the rows of the n x m matrix. Each of said claims 4-5, 8-13, 17-20, 22, 44-47, 49-50 and 57-60 would have been obvious to one of ordinary skill in the art at the time of the instant invention because they all encompass known data manipulation methods. For example, ordering data items based on a similarity sorting is a known data manipulation method as evidenced by Byrd et al. at the abstract, wherein similarity sorting is discussed as in claim 12. Furthermore, the method steps of claims, such as claim 4 are considered a further duplicated step from claim 1 wherein an additional row of data is displayed. This is because the steps of claim 4 encompass

similar steps of claim 1 with regards to displaying a smaller set of data relative to a matrix wherein the smaller display is based on reordered data items.

Response to Arguments

Applicant's arguments filed 6/23/2009 have been fully considered but they are not persuasive.

Applicant argues that none of the references teach or suggest the amended claim wording of calculating a pseudo-vector having n values.

Applicant's arguments are not found persuasive for the same reasons as discussed above in the instant Office Action.

Claims 1 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warrington et al. (P/N 6,884,578) in view of Balaban et al. (6,185,561) as evidenced by Byrd et al. (US P/N 5,826,260) as applied to claims 1 and 13 above and further in view of Schadt et al. (US P/N 7,035,739).

The combination of references set forth above suggest, but do not explicitly teach calculating a distance value between rows assigned a similarity value wherein the calculation is a Euclidean distance as in claim 14.

The references suggest this because Warrington et al. at col. 27, lines 25-44 discuss data items based on gene expression data, but derived from GeneCluster software analysis. For example, GENECLUSTER performs a data analysis that

involves clustering data such as hierarchical clustering, Bayesian, and k-means clustering wherein these types of clustering methods calculating a distance based on a Euclidean distance is commonly used and well known methods.

For example, Schadt et al. teach starting at col. 8, lines 21-47 using a Euclidean distance is a well known statistical method in the art. Furthermore, Schadt et al. teach at col. 11, lines 3-27 using data stored in a database to perform the data manipulation step.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to have calculated a distance using a a Euclidean distance, or a squared Euclidean distance as taught by Warrington et al. and Schadt et al., in the method made obvious by Warrington, Balaban, and Byrd for manipulating data. This is because one of ordinary skill in the art would find the differences between the claimed invention and the prior art were encompassed in known variations or in a principal known in the prior art. Furthermore, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Response to Arguments

Applicant's arguments filed 6/23/2009 have been fully considered but they are not persuasive.

Applicant argues that none of the references teach or suggest the amended claim wording of calculating a pseudo-vector having n values.

Applicant's arguments are not found persuasive for the same reasons as discussed above in the instant Office Action.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Sims, whose telephone number is (571)-272-7540.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marjorie Moran can be reached via telephone (571)-272-0720.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the Central PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central PTO Fax Center number is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ Jason Sims /

/Marjorie Moran/
Supervisory Patent Examiner, Art Unit 1631